

AMENDMENTS

IN THE CLAIMS:

1. (Currently Amended) An isolated nucleic acid molecule that encodes a fluorescent protein, wherein the nucleic acid is selected from the group consisting of:
 - (a) a nucleic acid that encodes a fluorescent protein comprising the amino acid sequence as shown in SEQ ID NOs: ~~2, 4, 6, 8, 10, 12, 14, 16~~, 18, 20, 22, 24, 26, or 28; and
 - (b) a nucleic acid that encodes a fluorescent protein that has at least about 80% sequence identity to the amino acid sequence of (a) above; and
wherein the protein encoded by the nucleic acid exhibits fluorescence.
2. (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from an organism from a phylum *Anthropoda*.
3. (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from an organism from a subclass *Copepoda*.
4. (original) The nucleic acid molecule of claim 1, wherein said nucleic acid is isolated from a family *Pontellidae*.
5. (original) A vector comprising the nucleic acid molecule according to claim 1.
6. (Previously Presented) An expression cassette comprising (a) a transcriptional initiator region functional in an expression host; (b) the isolated nucleic acid molecule according to claim 1; and (c) a transcriptional termination region functional in the expression host.
7. (Previously Presented) An isolated cell or progeny thereof comprising the expression cassette according to claim 6 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

8. (Previously Presented) A stable cell line comprising the expression cassette according to claim 6 as part of an extrachromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.

9. (withdrawn) A transgenic plant comprising the nucleic acid molecule according to claim 1.

10. (withdrawn) A transgenic animal comprising the nucleic acid molecule according to claim 1.

11. (withdrawn) A method for producing a fluorescent protein, said method comprising (a) providing a nucleic acid molecule according to claim 1 operably linked to suitable expression regulatory elements (b) expressing the fluorescent protein from said nucleic acid molecule, and (c) isolating the protein substantially free of other proteins.

12. (Cancelled)

13. (Currently Amended) A nucleic acid molecule encoding fluorescent protein having a sequence that is substantially the same as, or identical to a nucleotide sequence of at least 300 residues in length of the nucleic acid molecule according to claim 1, **wherein the protein encoded by the nucleic acid exhibits fluorescence.**

14. (withdrawn) An isolated fluorescent protein selected from the group consisting of:
- (a) a protein comprising the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, or 28;
 - (b) a protein encoded by the nucleic acid molecule comprising a nucleotide sequence as shown in SEQ ID NOs: 1, 3, 5, 7, 9, 11, 13, 15, 17, 19, 21, 23, 25, or 27;
 - (c) a protein that has at least about 60% sequence identity to the amino acid sequence of (a) or (b) above;
 - (d) a mutant of the protein of (a), (b) or (c) above;
 - (e) a protein having at least one amino acid substitution, deletion or insertion in the amino acid sequence as shown in SEQ ID NOs: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 26, or 28;
 - (f) a derivative of the protein of (a), (b), (c), (d) or (e) above;

(g) a fragment of the protein of (a), (b), (c), (d), (e) or (f) above comprising of at least 10 amino acid residues in length; and

(h) a protein having a sequence that is substantially the same as, or identical to the amino acid sequence of at least 100 residues in length of (a) or (b) above.

15. (withdrawn) A fusion protein comprising the protein according to claim 14.

16. (withdrawn) An antibody specifically binding to the protein according to claim 14.

17. (Previously Presented) A kit comprising the nucleic acid molecule according to claim 1.

18. (cancelled)

19. (withdrawn) A method for labeling a biological molecule, comprising coupling said biological molecule to the protein according to claim 14.

20. (withdrawn) A method for labeling a cell comprising production of the protein according to claim 14 in the cell.

21. (withdrawn) A method for labeling a cell organelle comprising production of the protein according to claim 14 fused to a suitable subcellular localization signal in the cell.

22. (withdrawn) A method for analyzing a biological molecule, cell or cell organelle comprising detection of fluorescence signal from the protein according to claim 14.

23. (withdrawn) A method for analyzing a biological molecule, cell or cell organelle comprising expression of the nucleic acid molecule according to claim 1 in a cell.

24. (withdrawn) A method of detecting a biological molecule comprising detection of fluorescence signal from the protein according to claim 14.

25. (withdrawn) A method for analyzing a biological molecule, cell or cell organelle comprising detection of fluorescence signal from the protein according to claim 15.

26. (withdrawn) A method of detecting a biological molecule comprising detection of fluorescence signal from the protein according to claim 15.

27. (Previously Presented) A transgenic cell or progeny thereof comprising the expression cassette according to claim 6 as part of an extra chromosomal element or integrated into the genome of a host cell as a result of introduction of said expression cassette into said host cell.